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ABSTRACT

Male and female academics have very different residence patterns. Women are concentrated in our largest urban centers; also, wherever they reside, women are less likely than men to switch communities when changing institutions. We indicate that much of this sex difference in location preference and movement pattern is attributable to the constraints under which married academic women must manage their careers; in particular, within the requirements of a dual-career household. Finally, we provide tentative evidence in support of the contention that the status difference between men and women in academia is attributable, in part, to the geographic limitations on the locations of married women, as these prevent making strategic job changes to advance career prospects. (Author)

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RESIDENCE LOCATION, GEOGRAPHIC MOBILITY, AND THE ATTAINMENTS OF WOMEN IN ACADEMIA

Gerald Marwell, Rachel Rosenfeld,
and Seymour Spilerman

U.S. DEPARTMENT OF HEALTH,
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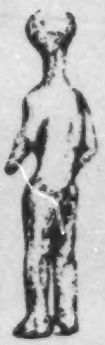

UNIVERSITY OF WISCONSIN - MADISON

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RESIDENCE LOCATION, GEOGRAPHIC MOBILITY, AND THE ATTAINMENTS OF WOMEN IN ACADEMIA*

Gerald Marwell
University of Wisconsin

Rachel Rosenfeld
McGill University

Seymour Spilerman
University of Wisconsin

August 1976

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ABSTRACT

Male and female academics have very different residence patterns. Women are concentrated in our largest urban centers; also, wherever they reside, women are less likely than men to switch communities when changing institutions. We indicate that much of this sex difference in location preference and movement pattern is attributable to the constraints under which married academic women must manage their careers; in particular, within the requirements of a dual-career household. Finally, we provide tentative evidence in support of the contention that the status difference between men and women in academia is attributable, in part, to the geographic limitations on the locations of married women, as these prevent making strategic job changes to advance career prospects.

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INTRODUCTION

Recent federal legislation[1] requires institutions of higher education to correct their discriminatory practices against women. Court decisions make it clear that "statistics can be used as prima facie evidence of discrimination" (Sandler, 1973). The statistics to show that women in academia fare worse than men are available in quantity. Women are at lower academic ranks, in less prestigious positions, take longer to advance, and receive lower pay than men (see, for example, Astin, 1969; Astin and Bayer, 1972; Bernard, 1964; Centra, 1974; Harmon, 1965 and 1968; Oltman, 1970; Rossi and Calderwood, 1973; and the United States Office of Education, 1972). As many of the authors realize, factors other than the policies and decisions of educational institutions contribute to these differences. Yet, little attention has been given to specifying the responsible factors, and some commentators (e.g., Patterson, 1971; Robinson, 1973; Stoll, 1974) continue to imply that all differences between male and female academics arise from discrimination.

It is our contention that a considerable part of the disparity between men and women in academic status and earnings derives from the disadvantages professional women face in the marital context. In a two-career family many crucial decisions (e.g., whether or not to have children; where to reside) can have an adverse effect on one or both careers, depending on the choice made and how the burden is shared. In this situation, two-career couples will be at a handicap, in comparison with one-career couples, with respect to maximizing job prospects.

We will argue that, in the aggregate, it is the careers of academic women which suffer most.

The factors of particular interest in this paper concern choice of residence community and pattern of geographic change. We shall show that academic women are more likely than academic men to accept positions in large metropolitan places, and less likely than men to move between geographic areas when they change jobs. Marked geographic preferences on the part of women should result in lower rates of attainment, even in the absence of discrimination by universities and colleges. Job-switching is the rule in academic careers and it pays off in upward mobility (Brown, 1967:36; Astin and Bayer, 1972). Since academia is essentially a national labor market in specialized positions,[2] one must take advantage of strategic opportunities and make job shifts when and where they appear. This requires the flexibility to make geographic moves, especially early in the course of one's career (Harmon, 1965, 1968; Caplow and McGee, 1958: 42-43).

On average, academic women are more constrained than academic men in taking advantage of these strategic opportunities. To a considerable degree this is due to the custom in our society of marriage hypergamy, the tendency for women to marry up in status. As a consequence, almost all married women in academia (55 percent of female Ph.D.'s are currently or have been married [Harmon, 1968: 74]) have husbands who are also pursuing careers, mostly professional careers. In contrast, comparatively few male academics are in similar two-career marriages (Astin, 1969:28-29; Centra, 1974:114).[3] With specific regard to geographic mobility, involvement in a dual-career family can affect career development adversely in at least two ways: (1) one might be unable to accept a good offer in another city because one's spouse cannot develop his/her career in that community; (2) one may have to move with one's spouse, relinquishing a good position in his/her current setting for a less desirable job elsewhere.

The fact that the burdens of managing two careers afflict a greater proportion of professional women than professional men means that, in the aggregate, academic women will be more hindered in their career progress, even if the difficulties of organizing a dual career household were to fall equally on each spouse. Yet, it is the case that the career costs tend to be borne disproportionately by the wife, as couples commonly place the needs of husband's career first in deciding on geographic moves (Sowell, 1976:56). As evidence, in a sample of Ph.D.'s and Ed.D.'s, Centra (1974:118) found that 49 percent of the married women and 4 percent of the married men viewed their spouse's job as a major deterrent to considering positions in other geographical areas.[4] We might also note that since women tend to be younger than their husbands, they often must develop careers in the context of their husband's existing work commitments.

Thus, the tendency for academic women to be concentrated in lower ranked positions than academic men derives from at least three factors: the constraints on both partners of two-career families, a marital arrangement more common among professional women than professional men; the tendency for decisions within such a family unit to be made in a manner which maximizes the husband's career prospects; and the discriminatory practices against women by colleges and universities. As the latter topic has been much discussed (e.g., White, 1970; Patterson, 1971), we focus in this report on the residence patterns of academic women and sketch the implications of restrictions on their geographic mobility for career development.

The narrow implications of the greater constraints upon married academic women are two-fold: They should be less likely than their male colleagues to move; also, in looking for a new appointment they would be compelled to seek positions in geographically restricted locations. A two-career family commonly requires a large labor market to find satisfactory specialized jobs for both spouses. Small communities such as Ann Arbor, Madison, or Austin contain only

one major institution and generally have restricted opportunities for employment.[5] Metropolitan places, such as New York City or Los Angeles, by contrast, contain several universities and colleges, and therefore provide multiple options for the partners in a two-career academic household. As a result, we expect two-career couples to locate more frequently in large communities. Once the members of such a family have obtained a jointly satisfactory situation, either may be constrained from moving to improve his/her job, if it is at the expense of the other's position. Hence, such couples should be less mobile geographically than families with one career-oriented spouse.

Compared with married women in academia, single women tend to have careers which resemble those of men (Simon, et al., 1967; Harmon, 1968). There is reason to believe, though, that single women (and possibly single men) prefer to reside in large urban areas (Rossi, 1973a) where there is a more varied social life. (Those of us who have tried to recruit women to smaller cities [e.g., to Madison, Wisconsin] regularly find ourselves answering questions such as "what is it like for a single woman in this family-oriented atmosphere?" or "are there any single men here except for the students?") Because single women tend to date "up" in age, the problem of a small academic community may be more severe for them than for single males, who can date younger females.

In summary, we intend to show that male and female academics respond differently to the geographic aspects of jobs, with women being more likely to settle in large metropolitan areas and less likely to move between geographic locales when changing jobs. If these propositions are correct, and the effects strong, they suggest a structural source for at least some of the disparity between the achievements of males and females in academia--a source which is not related to institutional discrimination, but arises from the particular needs of two-career couples and from decisions within the family unit concerning career priority.

GEOGRAPHIC LOCATIONS OF MALE AND FEMALE ACADEMICS

The first issue we address concerns residence patterns of men and women with academic appointments. Information relevant to this topic was obtained from the Carnegie Commission's 1969 survey of college and university faculty in the United States. In Table 1 we report city-size distributions, by sex, for a representative sample of faculty members; alongside we present comparable statistics for seven disciplines (subsamples) which contain large numbers of women. All data in our computations pertain to holders of the Ph.D.

For each of the seven disciplines displayed, and for the total sample as well, there is evidence of a consistent and substantial tendency for female faculty members to be concentrated in large urban centers,[6] in comparison with the locations of males. For the total sample 37.3 percent of women, versus 26.5 percent of men, are employed in communities with one million or more inhabitants. In psychology, the discipline on which much of our analysis will be based (for reasons to be explained later), the discrepancy is even greater: 38.9 percent of female academics work in urban centers which exceed one million in population; for males the comparable figure is 24 percent.

Because women academics are much more prone than men to being in two-career families, one way to assess the consequences of such a union for geographic location is to examine the relationship between sex and city size, controlling on marital status. That is, although we do not know spouse's occupation for individuals in the sample, we can usefully consider "female-married" to be a proxy for two-career couples. In Table 2 we report this tabulation for the total Carnegie sample and for the psychologists subsample. It is apparent that

Table 1. Size of Urban Area in which Employing Institution is Located, by Department of Teaching Appointment and Sex[a]

Size of Urban Area[b]	Total Sample (%)		Biological Sciences (%)		Education (%)		Fine Arts (%)	
	Men	Women	M	W	M	W	M	W
Less than 100,000	40.6	32.9	42.9	29.2	40.2	32.1	42.9	31.3
100,000-250,000	17.7	14.6	17.4	12.8	20.7	14.8	16.2	19.6
250,000-1 million	15.1	15.2	15.6	14.8	15.9	17.3	16.3	13.5
1-2 million	3.7	5.8	4.4	7.0	2.6	6.1	2.4	2.7
Over 2 million	22.8	31.5	19.7	36.2	20.6	29.6	22.2	33.0
Total	99.9	100.0	100.0	100.0	100.0	99.9	100.0	100.1
(N)	(27007)	(2409)	(3234)	(298)	(975)	(196)	(826)	(112)

	Humanities & Languages (%)		Physical Sciences (%)		Psychology (%)		Social Sciences (%)	
	Men	Women	M	W	M	W	M	W
Less than 100,000	40.5	31.5	42.0	27.2	42.0	37.1	40.0	30.0
100,000-250,000	15.9	12.9	14.5	9.6	18.2	11.8	15.6	8.7
250,000-1 million	14.9	15.8	15.1	17.6	15.8	12.3	14.2	12.5
1-2 million	3.6	5.1	3.5	8.1	3.7	6.5	4.9	7.7
Over 2 million	25.0	34.7	24.9	37.5	20.3	32 4	25.3	41.1
Total	99.9	100.0	100.0	100.0	100.0	100.1	100.0	100.0
(N)	(5213)	(752)	(3806)	(136)	(1337)	(170)	(2884)	(207)

[a]Data are from the 1969 Faculty Survey conducted by the Carnegie Commission. Distributions are based on cases where highest earned degree is the Ph.D.

[b]Urban area unit refers to the 1960 U. S. Census definition of "urbanized area."

Table 2. Size of Urban Area, by Marital Status and Sex[a]

Size of Urban Area[b]	Total Sample[c]			
	Married, Spouse present (%)		Not Married (%)	
	Men	Women	Men	Women
Less than 100,000	41.6	30.7	31.2	34.6
100,000-250,000	18.0	12.1	14.5	16.6
250,000-1 million	15.0	12.3	16.2	17.5
1-2 million	3.5	6.6	5.4	5.2
Over 2 million	21.8	38.4	32.8	26.2
Total	99.9	100.1	100.1	100.1
(N)	(24355)	(1060)	(2652)	(1349)

	Psychology[c]			
	Married, Spouse present (%)		Not Married (%)	
	Men	Women	Men	Women
Less than 100,000	43.3	36.1	31.9	39.4
100,000-250,000	18.8	13.4	13.3	9.9
250,000-1 million	15.3	9.4	19.2	16.8
1-2 million	3.4	6.2	5.9	5.6
Over 2 million	19.3	35.1	29.6	28.2
Total	100.1	100.2	99.9	99.9
(N)	(1200)	(97)	(135)	(71)

[a]Data are from Carnegie Commission Faculty Survey, 1969. Distributions are based on cases where highest earned degree is the Ph.D.

[b]Urban area unit refers to the 1960 U. S. Census definition of "urbanized area."

[c]Marital status at time of the Carnegie survey.

the effect of marriage on the city-size locations of women is pronounced and in the direction suggested by our argument. In the total sample, married females are nearly twice as likely as married males (45 percent versus 25.3 percent) to reside in urban places with population exceeding one million. For psychologists the discrepancy is equally large--41.3 percent versus 22.7 percent.

The representation rates for single academics, of both sexes, in large urban centers fall within these ranges--31.4 percent for females, 38.2 percent for males in communities greater than one million, total sample; 33.8 percent and 35.5 percent for females and males, respectively, in the psychologists subsample. These results are consistent with our thesis, though they constitute a digression from our principal concern, which is the effect of dual-career marriages on the attainments of women. Single individuals, as we have intimated, probably do prefer to reside in metropolitan places, but they are not constrained by conjugal ties (as married females would be) and can therefore respond to an unusually attractive offer from a school in a small community.

In order to pursue further the topics of residence pattern, geographic mobility, and the effects of these matters on the differential attainments of academic men and women, it is necessary to examine job changes with respect to the locations of the origin and destination positions. It also will be useful to ascertain the association between a job shift (change of institution) and a status shift (change of academic rank). Unfortunately, the Carnegie survey does not contain job history information, which is required for pursuing these topics. We therefore constructed a second data set, one better suited to our purposes.

The American Psychological Association publishes a Biographical Bulletin which is one of the few professional directories to provide complete career histories for most listed members. Psychology is also one of the academic professions to have a substantial number of women faculty. In constructing this data set we coded the career histories[7] of a sample of female and male academic psychologists, selected so as to be comparable on a set of background factors: All held academic positions in 1970 (the data of the A.P.A. Bulletin used) and had received their Ph.D.'s between 1955 and 1962. These individuals, therefore, had at least eight years of post-Ph.D. activity under similar, sellers-market conditions. This design permits us to compare the attainments of individuals with a like number of years of work experience and some attachment to academia.

To find women with these characteristics efficiently we employed the 1971-72 Survey of Women Members of the American Psychological Association. Of the 5098 women listed, 207 both met our conditions and had sufficient information for the analyses listed in the A.P.A. Biographical Bulletin.[8] All 207 were retained for the study. A second sample, consisting of 207 men, was then selected from the A.P.A. Biographical Bulletin to match the women on three characteristics: (1) age at receiving the Ph.D. (less than or equal to 35 versus older than 35); (2) type of employment history (non-clinical versus clinical involvement); and (3) quality of graduate department from which the Ph.D. was obtained ("distinguished," "strong," or "other," as rated in Cartter [1966]). This sample thus broadly controls for the fact that women are, on average, older than men when they receive their doctorates, for the tendency of men to have careers which involve other than strictly academic positions, and for major differences in quality of degree granting institutions. Men were also matched to women by alphabetical order of last name, as a rough control for ethnic differences.

While this sample allows us to focus on sex differences in geographic and career mobility, it is important to keep in mind the limits it imposes on

generalization. The subsample of 207 women is not representative of the 1955-62 cohort of women psychologists with Ph.D.'s, since it does not include women who have dropped out of academia, or from the labor force, because of personal or family constraints. The men are not representative of their Ph.D. cohort since they were chosen according to proportions set by the women's sample. Finally, the A.P.A. Bulletin does not report marital status, which would have been a particularly useful variable to control. Our analysis must therefore be limited to gross comparisons between women and men, instead of being based on refined comparisons between married women and other individuals.

In Table 3 we provide a tabulation of the city-size locations of members of our second sample, in a form comparable to Table 1. Since we have more information on the careers of these psychologists, we display their locations at three time points: during graduate training, first job after receiving the Ph.D., and position held eight years subsequent to the Ph.D. While these results are not quite as strong as in the Carnegie sample, they consistently support the notion that women tend to reside in large communities. The findings are most striking with respect to first job, but the effect is present in each of the distributions; in no case does the overrepresentation of women in places greater than one million in population fail to exceed the male representation rate by at least 7.7 percentage points. The fact that women are concentrated in large communities during graduate training probably reflects their membership in two-career households even in this early period; either having returned to school after child bearing, or having older husbands with launched careers.

The slightly weaker relationship between sex and city size in the matched sample reflects, in part, the different compositions of the two samples. The

Table 3. Distribution of Men and Women by Size of Urban Area and Career Point[a]

Size of Urban Area[b]	Location of Ph.D.-granting Institution				Location of First Job After Receiving Ph.D.				Location of Job Held Eight Years After Receiving Ph.D.			
	Men		Women		Men		Women		Men		Women	
	N	%	N	%	N	%	N	%	N	%	N	%
Less than 100,000	43	20.8	38	18.4	61	29.6	37	18.6	53	25.6	36	17.7
100,000-250,000	48	23.2	39	18.8	33	16.0	25	12.6	25	12.1	28	13.8
250,000-1 million	38	18.3	36	17.4	32	15.6	38	19.1	47	22.7	43	21.2
1-2 million	20	9.7	20	9.7	20	9.7	18	9.0	18	8.7	22	10.8
Over 2 million	58	28.0	74	35.7	60	29.1	81	40.7	64	30.9	74	36
Total[c]	207	100.0	207	100.0	206	100.0	199	100.0	207	100.0	203	100.0

[a]Data are for psychologists and were drawn from the American Psychological Association's Biographical Bulletin, 1970. See text for further details on the sample.

[b]Urban area unit refers to the 1960 U. S. Census definition of urbanized area. Information on size of Canadian cities came from the 1960 Canadian Census.

[c]Total is less than 207 because location was unreported for some positions.

Carnegie survey covered only persons with teaching appointments, while the matched sample of psychologists, though it required a teaching appointment in 1970 for inclusion, contains the full job distributions of the subjects in earlier years. Many of those positions were non-teaching academic appointments, administrative and post-doctoral, and some were non-academic positions. In addition, the age distributions of men and women are not coincident in the Carnegie sample--the women are younger--and this may account for some of the discrepancy in results.

Despite minor differences, though, the principal finding with respect to the residence patterns of men and women replicates in the two studies--women are located disproportionately in large urban centers. The Carnegie data indicate that much of this effect is attributable to the residence proclivities of married females, presumably because their careers must evolve within the constraints of two-career households. This tendency to a city-size preference on the part of married women is one indicator of their limited ability to make strategic job shifts to advance their careers. We now turn to the related issue of sex differences in the pattern of geographic mobility among academics.

CHANGE OF INSTITUTION AND MIGRATION

Information regarding the rate of movement between geographic areas, when a change of institution occurs, provides our most compelling evidence for the constraints on the location options of married women. In Table 4 we report the proportions of male and female psychologists in our matched sample who remain in the geographic areas of their graduate schools upon entering first jobs.[9] It is evident that women are considerably less mobile than men, even at this early stage in their careers. On average, women are

Table 4. Percentage of Degree Recipients Remaining in Urban Area of Ph.D.-granting Institution, for First Job After Receiving Ph.D., by Sex[a]

Size of Urban Area[b] (U.A.) in Which Ph.D.-granting Institution is Located	Men		Women	
	N	% Remaining in U.A. for First Job	N	% Remaining in U.A. for First Job
Less than 100,000	43	16.3	36	16.7
100,000-250,000	48	22.9	38	42.1
250,000-1 million	38	21.1	33	33.3
1-2 million	20	35.0	19	31.6
Over 2 million	57	56.1	73	72.6
Total[c]	206	31.6	199	46.2

[a]Data are for psychologists and were drawn from the A.P.A. Biographical Bulletin, 1970.

[b]Urban area unit refers to the 1960 U. S. Census definition of urbanized area. Information on size of Canadian cities came from the 1960 Canadian Census.

[c]Excludes cases for which location of first job after receiving Ph.D. was not reported; totals are less than 207 for this reason.

half again as likely to remain in the community of their Ph.D. granting institution (46.2 percent versus 31.6 percent for men). The tendency to remain is especially high in the largest city size category (72.6 percent); we point out that, in terms of origin locations, women are already over-represented in these communities (73/199 = 37 percent versus 57/206 = 28 percent for men).

The difference between men and women in migration rates is especially pronounced when all job shifts (i.e., changes in institutional affiliation) are considered. In Table 5 we report the percentage of job shifts that are within-urban area, by sex and city size, during the eight to fifteen year interval each psychologist was in our sample. It should be noted that the unit of analysis here is the job shift, not the individual. Sample members differ in the number of job shifts contributed to our calculations, in accordance with the amount of institutional change they have experienced during this period in their work lives, and year of receipt of their doctorates.

Although the total number of job shifts is quite similar for men and women--286 versus 269--the tendency for women to remain within an urban area is quite pronounced. With the exception of the very smallest communities, females show dramatically higher rates than males of remaining upon a change of institutions; in the full sample, job shifts by women were twice as likely to take place within an urban area (42 percent versus 21.7 percent for men). We also note that with the exception of the smallest city-size category, the constraints upon women appear to be more severe in small job markets. In particular, while only 7.1 percent of men in the city-size category 100,000-one million remain in an urban area when changing jobs, the comparable figure for women is 33.3 percent.

Table 5. Percentage of Job Shifts That Occurred Within an Urban Area, by Sex[a]

Size of Urban Area[b] (U.A.) Where First of a Pair of Jobs is Held	Men		Women	
	Number of Job Shifts[c]	% Within U.A.	Number of Job Shifts[c]	% Within U.A.
Less than 100,000	93	11.8	53	5.7
100,000-250,000	32	6.3	36	33.3
250,000-1 million	48	8.3	38	33.3
1-2 million	32	18.8	30	46.7
Over 2 million	81	48.1	102	66.7
Total Job Shifts[d]	266	21.7	269	42.0

[a]Data are for psychologists and were drawn from the A.P.A. Biographical Bulletin, 1970.

[b]Urban area unit refers to the 1960 U. S. Census definition of urbanized area. Information on size of Canadian cities came from the 1960 Canadian Census.

[c]Job shift is defined as a change in institutional affiliation.

[d]Data pertain to the first eight to fifteen years of each subject's post-Ph.D. job history. That is, sample members received their Ph.D.'s between 1955 and 1962; job histories run through 1970.

At this point in the discussion we have exhibited a rather consistent pattern in the geographic preferences of men and women. Academic women are both more likely to locate in large urban centers and, wherever they reside, are less mobile, tending to change institutions mainly within their places of residence. Job shifts within a locale do not require a complementary job change by spouse or other family dislocation; we presume that this fact accounts for the mobility differences between men and women. Thus, the familiar picture of the "mobile professor," taking whatever job best leads to advancement in position or salary is less applicable to female than to male academics.

CAREER ADVANCEMENT

To introduce our discussion of the effects of differential geographic mobility on career advancement, we report in Table 6 the job distributions of men and women in our matched sample of psychologists eight years after completing the Ph.D. The bulk of employment is seen to be in academic institutions and in tenure track positions; this, however, is an artifact of the manner in which our sample was constructed, since holding a teaching position in 1970 was a requirement for inclusion. The lower representation of women in tenure track positions (71 percent versus 80.1 percent for men) is not derivative of the sample design, though; nor, for that matter, is the considerable underrepresentation of women in the higher ranks of associate professor and professor (45.9 percent versus 66.6 percent for men).

Table 6. Position Held in Eighth Year After Receiving Ph.D.[a]

Type of Position	Men		Women	
	N	%	N	%
Academic, Tenure Track	166	80.1	147	71.0
Professor	38	18.3	24	11.6
Associate Professor	100	48.3	71	34.3
Assistant Professor	28	13.5	52	25.1
Academic, Non-Tenure Track	26	12.7	42	20.4
Post-doctoral	2	1.0	1	0.5
Lecturer, Research Associate	8	3.9	23	11.1
Instructor	8	3.9	7	3.4
Visiting Faculty, Clinical Positions, etc.	7	3.4	9	4.4
Administration	1	0.5	2	1.0
Nonacademic	15	7.2	14	6.7
No Position Reported	0	0.0	4	1.9
Total	207	100.0	207	100.0

[a]Data are for psychologists and were drawn from the A.P.A. Biographical Bulletin, 1970.

Similar data have been reported by others (e.g., Bernard, 1964:189; Patterson, 1971; Rossi, 1970), and they are consistent with an argument of institutional discrimination as well as with one which stresses the limited movement options of women as a result of their common presence in two-career households. As we have noted, there are reasons to believe that constraints on movement in academia should retard career development. It is difficult, however, to ascertain the extent to which this factor is responsible for the lower attainments of women. In part, this is because while earnings level constitutes one important dimension of career progress, we lack data with which to relate type of areal move to earnings change. In part, the problem is also that many Ph.D.'s in our sample have held non-academic jobs at some points in their careers. These positions are difficult to place in a clear hierarchy of "achievement," relative to each other and to academic positions, in order to determine the status returns to a move. Additionally, several non-tenure track academic positions, such as assistant dean or lecturer, carry varying degrees of prestige and remuneration.

We can nonetheless draw some tentative conclusions regarding the consequences of presumed dual-career households for the academic standings of women. If we restrict ourselves to status shifts accompanying institutional changes which involve only the ranks of assistant professor, associate professor, and professor, we have an unambiguous hierarchy in status. (We do point out that there remains the matter of institutional quality; many individuals trade an assistant professorship at one school for an associate professorship at a weaker institution. However, we will not dwell on this issue as our sample is too small to permit consideration of this refinement or other possible second-order effects.)

In Table 7, upper panel, we report rank shifts which accompanied institutional changes, for instances where the positions could be ordered unambiguously. The results reveal that job changes which involve moving to a different community tend to be substantially more profitable for males than for females. In particular, 40 percent of men who move between urban areas obtained a higher academic rank in the process; the comparable figure for women is 23.3 percent ($p < .05$, one tail test). Women who move within an urban area appear to do slightly better than migrating women (29.4 percent versus 23.3 percent, n.s. at the .10 level), probably because such shifts are likely to be voluntary,[10] at least in the sense of not being prompted by husband's career requirements. Movement within an urban area by males seems to be quite rare; only four institutional changes of this sort occurred in our sample. The common pattern for men is to move up by moving around.

In the lower panel of Table 7 we present analogous data for instances in which an origin job in a change of institutions was not tenure track. These data are more difficult to interpret as there is no clear specification of "higher rank," "same rank," or "lower rank" that might be assigned to status shifts. For this reason we report destination positions rather than an evaluation of the status shift. Nevertheless, this panel does provide support for our basic contention, that men are more successful than women in negotiating a job advancement when they undertake a change of community. If we view tenure track positions as more desirable than non-tenure track/non-academic jobs, then migrating women fare relatively poorly: 54.3 percent remain in their origin status category, versus 44.4

Table 7. Status Change Associated with Employment Shifts, by Geographic Mobility Experience and Sex[a]

Status of Origin Position[b]	Sex, Destination Location	Status Change				Total	
		Higher Rank	Same Rank	Lower Rank	Non-Tenure Track or Non-Academic	Percent	N[d]
Assistant or Associate Professor	Men, Different Urban Area	40.0	45.9	1.2	12.9	100.0	35
	Women, Different Urban Area	23.3	46.7	3.3	26.7	100.0	60
	Men, Same Urban Area[c]	--	--	--	--	--	4
	Women, Same Urban Area	29.4	35.3	0.0	35.3	100.0	17

		Status of Destination Position				Total	
		Prof.	Assoc. Prof.	Asst. Prof.	Non-Tenure Track or Non-Academic	Percent	N[d]
Non-Tenure Track or Non-Academic	Men, Different Urban Area	4.8	22.2	28.6	44.4	100.0	126
	Women, Different Urban Area	7.4	13.8	24.5	54.3	100.0	94
	Men, Same Urban Area	1.7	12.1	20.7	65.5	100.0	58
	Women, Same Urban Area	2.1	10.4	32.3	55.2	100.0	96

[a]Data are for psychologists and were drawn from the A.P.A. Biographical Bulletin, 1970.

[b]Unit of analysis is a pair of positions for an individual.

[c]There were only four within-urban area job shifts by males in this subsample.

[d]Number of pairs of positions.

percent for men ($p < .10$, one tail test). In addition, the proportion of all geographic moves that result in high academic rank (associate professor or professor) is also lower for women (21.2 percent versus 27 percent for men), though the difference is not statistically significant (.10 level).

These findings support the notion that change of locale is more closely associated with a status improvement for men than it is for women. Because men are willing to make strategic moves, they tend to make job shifts to the most profitable alternatives. We would predict that even where men stay in the same geographic area when changing institutions, they do so because their best job option happens to be in the locale.[11] Women, on the other hand, do less well whether they move or not, since, for many of them, choice of location is not made for the purpose of maximizing own career prospects.[12] Both those who stay and those who move often make their decisions to advance husband's career needs, at least as much as their own. They must compromise, and hence fare less well.

CONCLUSIONS

Academic women do not behave in the labor market in the same way as academic men. They are restricted in geographic mobility and choice of location, primarily because they tend to belong to two-career families which require large labor markets and have unusual geographic inertia. The analysis we have presented supports this assessment despite the fact that it probably underestimates the effects of the factors. Neither the Carnegie Commission data nor our matched sample of psychologists contain academically oriented Ph.D.'s who are temporarily or permanently unemployed. Women in two-career families are particularly liable to being in these

circumstances, either having taken time out to raise children or remaining jobless because of husband's choice of location.[13] Such unemployment can be attributed to decisions in the marital unit, and derives in part from the constraints of residence on wife's career, though it is not reflected in our statistics.

We wish to emphasize that it is not our intention to detract from studies which have documented discrimination against women in academia, either with regard to institutional procedures or more subtle arrangements which result in their exclusion from informal collegial activities. It is our purpose to underscore the pitfalls of facilely attributing zero-order effects (the disparity in the attainments of men and women) to single factor explanations (discrimination by colleges and universities). What we have attempted to show is that the low achievements of women can also be understood in terms of other considerations: their greater likelihood of being in two career households and the disadvantage they suffer within such a marital unit in decisions concerning whose career to advance. How much of the gap in attainment between the sexes should be attributed to the processes we have stressed, and how much to institutional discrimination, remains an open question.[14]

There are several reasons why it is important to recognize the sources of women's disadvantage in academia. First, there is the matter of faulting the universities for what is properly the result of their actions, and insisting on recompense. Yet, our analysis suggests that even if all institutional discrimination were eliminated, a sex difference in academic status would persist as women still would be less able to move freely across communities and capitalize on job offers from distant schools. To eliminate this remaining disparity, it may be proper public policy to request educational institutions to hire and promote women in

a manner which offsets the disadvantages they suffer in the marital context. To the extent this is done, however, it is our view that appropriate compensation ought to be provided to universities for what is asked of them.

Second, there is the question of how to assess sexism in hiring by specific educational institutions. On the basis of this analysis we would argue that the use of simple national production rates of Ph.D.'s by discipline, as an index of "availability," may place an unfair burden on some institutions while letting the discriminatory practices of others go unpunished. National figures do not represent the true availability of female and male academics to specific institutions. In particular, they overstate the supply of women to institutions in small labor markets. Further, salaries, rates of promotion, and other rewards to female academics may not be comparable with those of equally situated and productive males for reasons other than discrimination. Inability to seize strategic opportunities because of a lack of geographic flexibility may have negative effects on all of these outcomes.

One interesting implication of this study is that differences between male and female academics with regard to geographic mobility may well decline in the future; we expect male academics to be subject increasingly to the pressures currently felt by females. As women insist on utilizing their training, and undertake careers, academic men will more frequently find themselves within two-career households. They, too, will need large labor markets and be unable to change geographic locations with impunity. Counterposing this effect--yet also serving to reduce the relative disadvantage of females--new marital arrangements are becoming common, in which the spouses hold positions in different cities and commute for conjugal purposes.

Finally, we point out that while the underrepresentations of ethnic minorities and women are frequently discussed together, as different facets of institutional discrimination (e.g., Vetter, 1975; Jackson, 1972), our analysis indicates that, at least to some degree, they have different underlying causes, and should be analyzed separately. In particular, the processes we have documented with respect to women would not be relevant to the situations of male members of minority groups. Equally, the disadvantaged economic backgrounds of blacks and individuals of Spanish speaking extraction hardly applies to the circumstances of white women as a group.

NOTES

[1]The 1972 Equal Employment Opportunity Act and Executive Order 11246, as amended by Executive Order 11375, make institutions of higher education responsible for correcting discriminatory practices and the effects of such practices.

[2]This is recognized in the August 14, 1972 HEW guidelines for Affirmative Action Programs (Lorch, 1973:117):

> For academic employees the basic national data on earned doctors degrees will provide the basis for utilization analysis of a contractor's work-force, unless the contractor can otherwise demonstrate that the labor market upon which it draws is significantly different from this base.

[3]In Centra's (1974) study, 63 percent of the spouses of female Ph.D.'s held Ph.D.'s or professional degrees. The comparable figure for the spouses of male Ph.D.'s was 8.3 percent.

[4]For corroborating data on the extent to which change of community is undertaken principally to advance husband's career, see Kashket et al. (1974:493). For comments regarding the cost to wife's career from such relocation decisions see Astin (1973:150).

[5]Exacerbating these difficulties are formal anti-nepotism rules. Though few institutions now have such policies, Rossi (1973b:173) reports that of 378 schools on which she received information from AAUP chapters, 52 had strict institution-level policies, 52 had departmental rules, and 43 had unwritten departmental rules. In Centra's study (1974:46), 9 percent of the responses by women and none of those by men to "Reasons for current unemployment?" were "Because of anti-nepotism policy of spouse's employer."

[6]Population of the urbanized area was used to characterize the geographic locations of degree-granting institutions and places of employment. We chose this areal unit instead of the smaller unit of central place (city) or the larger unit of Standard Metropolitan Statistical Area because it seemed to be the proper size for describing the locales within which people both live and work. Urbanized area sizes in the United States come from the 1960 United States Census. Information on sizes of Canadian communities come from the 1960 Canadian Census, and for other countries, from Atlases. (Our second sample, to be described, contains a few instances where academics, during parts of their careers, worked outside the United States.)

[7]Many longitudinal data are subject to error because of faulty recall. In the present investigation, however, the information obtained by the APA from its 30,000 members should be a matter of record for those from whom it was requested. Supposedly, academic persons keep an up-to-date vita for professional purposes. While using American Men of Science to find additional information, we did notice occasional minor discrepancies between the two sources. The APA information was used for the sake of consistency and because it was more recent. On the whole, these data should be more reliable than retrospective surveys of the general population.

[8]Fifty-seven percent of the 5098 women listed in the 1971-72 Survey of Women Members of the American Psychological Association had Ph.D.'s, and 41 percent of all women psychologists reported teaching as one work activity. If a woman both received a Ph.D. between 1955 and 1962 and listed teaching as one of the two work activities, her name was located in the 1970 APA Biographical Bulletin. Of the women in the Survey who satisfied

the criteria for inclusion in the sample, ten were nuns. They were omitted since individuals in religious orders do not always make their own career decisions. For one hundred and twenty-five others, the entry in the 1970 Bulletin contradicted information in the Survey: their degree year was beyond the limits set for the sample, they were not teaching in 1970, or they did not list age and career information in the Bulletin. These 125 were also excluded.

[9]In a few cases, an individual was not in residence at the time he/she finished work on the doctorate, but was employed in an area other than where the degree-granting institution is located. Some of the moves from urban area of the graduate school may therefore have been made earlier than the data of receiving the Ph.D.

[10]Though not statistically significant in our small sample, we interpret this effect since it is consistent with the pattern of our results.

[11]A search of the APA Biographical Bulletin for additional male psychologists who met the conditions for inclusion in the sample, and had made job shifts from assistant or associate professor within the same urban area, revealed that their likelihood of advancement corresponds closely to that of males who switched geographic locales.

[12]The greater success of single women in academia, versus married women, provides support for this notion. Astin(1973:153) reports that in her post-1940 cohorts, 75 percent of single women held the ranks of associate professor or professor, versus 52 percent of married women. While such data tap all the sources of disadvantage which accrue to married women, we suggest that residence constraints constitute a central mechanism.

[13]Consistent with this contention, in a recent study of dual career families and migration, Duncan and Perrucci (1976:260) conclude "among college graduates, geographical movement is unfavorable to the wife's continued participation in the labor force."

[14]These explanations are also confounded in a subtle way. An unsolicited job offer, even if rejected, will often result in a remuneration and perhaps a status increase at one's current institution. Because of perceptions of immobility, married women are probably less likely than single women--or married men--to receive job offers from distant schools.

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